

WHAT IS CLAIMED IS:

1. A tool driver comprising a shaft having a longitudinal axis and opposite ends, a first partial boss at one of said shaft ends, a tool collet at the other of said shaft ends, a second partial boss having a bore extending therethrough, said second partial boss being positioned on said shaft with said shaft in said bore, a stop on said shaft, said second partial boss being slidable on said shaft between said first partial boss and said stop, a spring being positioned between said second partial boss and said stop, said spring urging said second partial boss into said engagement with said first partial boss, said first and second partial bosses being complementary to each other, said first and second partial bosses in engagement with each other defining a bayonet type latch mechanism, said latch mechanism having an axially extending inwardly tapered bore extending from said one end coaxially of said shaft into said boss, said tapered bore being adapted to receive a coaxially located disc of a tool to be connected to said tool driver within said tapered bore, said tapered bore and said tool disc coaxially centering said tool on said axis of said tool driver.
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2. The tool driver of Claim 1 wherein said stop being a removable stop on said shaft whereby said second partial boss and said stop and said spring may each be disassembled from said shaft when desired.
3. The tool driver of Claim 1 wherein said bayonet type latch mechanism comprises a primary groove extending diametrically of said first boss, said primary groove having width sufficient to receive a mounting bar extending diametrically of a rotary tool to be positioned therein, and a secondary diametral groove circumferentially spaced therefrom, said secondary groove also having a width sufficient to receive said tool mounting bar therein, said primary groove having a bottom and upstanding sides and an open top, said second
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secondary groove having a bottom in the same plane as said primary groove bottom, one upstanding wall remote from said primary groove, and a top.

4. The tool driver of Claim 3 wherein said second partial boss is also rotary slidable about said shaft and said longitudinal axis, said first and second partial bosses being engaged in non-complementary fashion at positions rotatably spaced from said complementary position, said secondary groove being open to receive said tool mounting bar
5 therein.

5. The tool driver of Claim 4 wherein said second partial boss includes a second spaced apart upstanding side of said secondary groove, said secondary groove being closed when said first and second partial bosses are in said complementary position.

6. The tool driver of Claim 3 wherein said secondary groove is closed when said first and second partial bosses are engaged in said complementary position.

7. The tool driver of Claim 3 wherein said secondary groove is open when said first and second bosses are spaced apart or engaged in said non-complementary positions.

8. The tool driver of Claim 1 further comprising a lock preventing movement between said first and second partial bosses.

9. The tool driver of Claim 8 wherein said lock locks only rotary movement between said first and second bosses.

10. The tool driver of Claim 1 wherein said first partial boss also includes said axially extending tapered bore in said boss which receives a centrally located disk on a tool to be used with said tool driver.

11. The tool driver of Claim 10 wherein said first and second partial bosses in said complementary position have a primary groove extending diametrically of said
5 boss, said primary groove having a width sufficient to receive a mounting bar extending diametrically of a rotary tool to be positioned therein, and a secondary diametral groove radially spaced therefrom, said secondary groove also having a width sufficient to receive said tool
mounting bar therein, said primary groove having a bottom upstanding side and an open top, said
10 secondary groove having a bottom in the plane as said primary groove bottom, one upstanding side remote from said primary groove and a top.

12. The tool driver of Claim 10 wherein said second partial boss includes a spaced apart opposite upstanding side of said secondary groove, said secondary boss in said complementary position closing said secondary groove.

13. The tool driver of Claim 11 wherein said upstanding wall of said secondary groove of said second partial boss is tapered, said upstanding wall engages said tool mounting bar in said secondary groove and urges said mounting bar against said one upstanding side and said top.

14. The tool driver of Claim 11 wherein said first partial boss includes both said tapered bore and said primary groove.

15. The tool driver of Claim 11 wherein said first partial boss includes both said primary groove and said secondary groove, said primary groove being larger than said tool mounting bar whereby said tool mounting bar can be placed within said primary groove in more than one radial position.

16. The tool driver of Claim 11 wherein said second partial boss both closes said second groove and limits the positioning of said tool mounting bar in said first groove to only be radially positioned in said second groove.

17. The tool driver of Claim 11 wherein said secondary groove is closed in said complementary position.
18. The tool driver of Claim 17 wherein said secondary groove is open in all non-complementary positions.
19. The tool driver of Claim 18 further comprising a lock, said lock locking first and second partial bosses in said complementary position and in said open position.
20. The tool driver of Claim 19 wherein said lock positions are radially spaced apart.
21. The tool driver of Claim 1 wherein said first and second partial bosses combine to define an entry slot for properly positioning said tool mounting bar preparatory to entering said primary groove.
22. The tool driver of Claim 21 wherein said entry slot also functions as said lock locking said part bosses in an open condition.
23. The tool driver of Claim 18 wherein said tapered bore has a bottom in the same plane as said primary and secondary groove bottoms, said bore and said primary groove being both accessible from the distal end of said boss, whereby the diametrically extending mounting bar and disc of a tool may be positioned in said primary groove and bore
5 and rotated a partial rotation into said secondary groove when said partial bosses are in said open condition.
24. The tool driver of Claim 1 wherein said second partial boss is slidably positioned on said shaft and movable between an at rest position in which said second partial boss is complementary to said first part boss and positions remote therefrom, said second partial boss being urged toward said first partial boss.

25. The tool driver of Claim 11 wherein said tapered bore is partially defined by said first partial boss and partially defined by said second partial boss.

26. The tool driver of Claim 25 wherein said primary groove is in said first partial boss.

27. The tool driver of Claim 26 wherein said secondary groove is in said first partial boss except for one upstanding wall.

28. The tool driver of Claim 27 wherein said secondary groove bottom and said primary groove bottom are in the same plane.

29. The tool driver of Claim 28 wherein said bore and said primary groove being both accessible from the distal end of said boss, whereby the diametrically extending mounting bar and disc of a tool may be positioned in said primary groove and bore and rotated a partial rotation into said secondary groove.

30. The tool driver of Claim 1 wherein said bore is tapered adjacent said distal end.

31. The tool driver of Claim 30 wherein said taper is more drastic adjacent said distal end than remote from said distal end.

32. The tool driver of Claim 3 wherein said upstanding walls of said primary groove are tapered.

33. The tool driver of Claim 3 wherein at least one wall of said secondary groove is tapered.

34. The tool driver of Claim 3 wherein said wall of said secondary groove on said second partial boss is tapered.

35. The tool driver of Claim 3 wherein said top is tapered with respect to said bottom.

36. The tool driver of Claim 5 further comprising a tool having an open back, a bar diametrically extending across said open back of said tool, a disc on said bar coaxial of said cutting edge and medial of said bar ends, said bar being in said secondary groove and held fast between said secondary groove bottom and said secondary groove top and between said pin and
5 said upstanding wall of said secondary groove.

37. The tool driver of Claim 36 wherein said tool being maintained coaxially of said tool driver by the engagement between said disc and said tapered bore, said tool driver being prevented from rotating about said axis by engagement between said upstanding side of said secondary groove and said pin, said tool being incapable of axial movement of said tool driver
5 by engagement between said secondary groove bottom and top, said tool being held against lateral or transverse movement of said tool driver by the engagement between said disc and said tapered bore.

38. The tool driver of Claim 1 wherein said first partial boss and said second partial boss being approximately the same size.

39. The tool driver of Claim 1 further comprising a handle on said shaft, said handle being freely rotatable about said shaft independently thereof.

40. A tool driver comprising:

a driver shaft having a longitudinal shaft axis, said driver shaft having a first shaft end and a second shaft end, said driver shaft having a first partial boss at said first shaft end; and
a second partial boss having a boss bore extending therethrough, said second partial boss

5 being slidably mounted on said driver shaft, said first partial boss limiting movement of said second partial boss in one direction on said driver shaft, said first partial boss and said second partial boss being configured for engaging with each other so as to define a bayonet latch mechanism.

41. The tool driver of claim 40, wherein said bayonet latch mechanism has an axially extending latch bore therein, said latch bore extending coaxially from said first shaft end, said tool driver being configured for connecting with a tool having a diametrically extending mounting bar, the mounting bar having a central, coaxially located positioning disc associated therewith, said latch bore being configured to receive the positioning disc of the tool therein and to thereby center the tool on said driver shaft relative to said shaft axis.

5 42. The tool driver of claim 40, wherein said first partial boss includes a first latch member and, spaced therefrom and diametrically opposed thereto, a second latch member.

43. The tool driver of claim 42, wherein said first latch member includes a first latch groove, said second latch member including a second latch groove, said first latch groove and said second latch groove each being substantially parallel to one another and substantially orthogonal to said shaft axis, said tool driver being configured for connecting with a tool having 5 a diametrically extending mounting bar adapted for direct connection with said tool driver, each said first latch groove and said second latch groove being sized and adapted to receive the mounting bar of the tool therein.

44. The tool driver of claim 42, wherein said second partial boss includes an inwardly tapered first extension member and a diametrically opposed, inwardly tapered second extension member.

45. The tool driver of claim 44, wherein said first extension member and said second extension member are configured for coacting with said first latch member and said second latch member to form a bayonet attachment with a tool carried by said tool driver.

46. The tool driver of claim 40, wherein said second partial boss has a first boss portion configured for coacting with said first partial boss, said second partial boss further having an oppositely directed second boss portion, said primary boss bore extending between said first boss

portion and said second boss portion, said second boss portion having a spaced interior boss
5 surface spaced from said driver shaft, said second boss portion having an interior boss stop
portion between said primary boss bore and said spaced interior boss surface, the tool driver
further comprising:

a shaft spring slidably mounted on said driver shaft, at least a portion of said shaft
spring being positioned between said driver shaft and said spaced interior boss surface,
10 said shaft spring having a first shaft spring end and a second shaft spring end, said first
shaft spring end being biasedly positioned against said interior boss stop portion;

a driver sleeve slidably mounted on said driver shaft, said driver sleeve having a
sleeve operative position relative to said driver shaft, said driver sleeve having a distal
first sleeve end surface, said second shaft spring end being biasedly positioned against
15 said first sleeve end surface when said driver sleeve is stationed in said sleeve operative
position.

47. The tool driver of claim 46, further comprising a bias button positioned within said
driver shaft and biased so as to normally protrude therefrom, said driver sleeve having a distal
second sleeve end surface, said bias button being located so as to normally protrude immediately
adjacent said second sleeve end surface when said driver sleeve is in said sleeve operative
5 position.

48. The tool driver of claim 47, wherein said bias button contacts said second end sleeve
surface when said driver sleeve is in said sleeve operative position and said bias button is
protruding from said driver shaft.